## Inspire Conference Program

**Friday, November 16, 2018**

### Welcome Remarks & Opening Plenary Talks in Memorial Hall

<table>
<thead>
<tr>
<th>Time</th>
<th>Plenary Talk</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>9:40 to 9:45 A.M.</td>
<td>Conference Opening &amp; Welcome</td>
<td>John Bischof, Director of IEM</td>
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<tr>
<td>9:45 to 9:55 A.M.</td>
<td>University of Minnesota Welcome</td>
<td>Sean Garrick, Associate Vice Provost, Equity &amp; Diversity</td>
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<tr>
<td>9:55 to 10:00 A.M.</td>
<td>Overview of the Day</td>
<td>Paul Iaizzo, IEM Associate Director for Education &amp; Outreach</td>
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<tr>
<td>10:00 to 10:10 A.M.</td>
<td>Finding Success Without Supervision: Self-Learning and How I Survived Growing Up</td>
<td>David Ramirez, Research Assistant, Visible Heart Lab</td>
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<td>10:10 to 10:20 A.M.</td>
<td>The Importance of Failure</td>
<td>Nikolaos Papanikolopoulos, Professor, Computer Science &amp; Engineering</td>
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### Morning Breakout Sessions: U. of M. Research Efforts

<table>
<thead>
<tr>
<th>Room</th>
<th>Breakout 1A</th>
<th>Breakout 1B</th>
<th>Breakout 1C</th>
<th>Breakout 1D</th>
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<tbody>
<tr>
<td>Johnson Great Room</td>
<td>Future of Neuro Robotics</td>
<td>Cancer Research in 2020 and Beyond</td>
<td>3D Printing for Spinal Cord Therapy</td>
<td>Cardiac Surgery: Best Job Ever!</td>
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<tr>
<td></td>
<td>Sean Moen, UMN</td>
<td>Chris Pennel, UMN</td>
<td>Michael McAlpine, UMN</td>
<td>Rosemary Kelly, UMN</td>
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<tr>
<td>Thomas H. Swain</td>
<td>Will Soft Robots Save Your Life?</td>
<td>Thinking Outside the Body: Building microHumans in the Lab to Study Disease</td>
<td>Cardiac Tissue Engineering: Making Cardiac Muscle Outside the Body</td>
<td>Medical Applications of wearable Robotics</td>
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<td></td>
<td>Tim Kowalewski, UMN</td>
<td>David Wood, UMN</td>
<td>Brenda Ogle, UMN</td>
<td>Will Durfee, UMN</td>
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<tr>
<td>Ski-U-Mah</td>
<td>Stimulating the Brain to Disrupt Addiction: A New Way Forward</td>
<td>Extracorporeal CPR: Giving People a Second Chance at Life</td>
<td>How Your Genes Help Make You Unique</td>
<td>Creating Tissues and Organs: The Time to Start Training for this New Field is Now</td>
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<td></td>
<td>Mark Thomas, UMN</td>
<td>Jason Bartos, UMN</td>
<td>Frank Albert, UMN</td>
<td>Angela Panoskaltsis-Mortari, UMN</td>
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<tr>
<td>Heritage Gallery</td>
<td>Transcranial Magnetic Stimulation as a Neuroscience Tool</td>
<td>Bear Research in Cardiology</td>
<td>Improving Medical Therapies Through Optimization</td>
<td>How Spinning Protons Make Seeing Inside the Body Possible with MRI</td>
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<td></td>
<td>Ziad Nahas, UMN</td>
<td>Tinen Iles, UMN</td>
<td>Tay Netoff, UMN</td>
<td>Michael Garwood, UMN</td>
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### Lunch Session in Memorial Hall

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<thead>
<tr>
<th>Time</th>
<th>Plenary Talk</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>11:50 to 11:55 A.M.</td>
<td>Introduction of Manny Villafana</td>
<td>Paul Iaizzo, IEM Associate Director for Education &amp; Outreach</td>
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<tr>
<td>11:55 to 12:20 P.M.</td>
<td>The Trials and Tribulations of an Entrepreneur</td>
<td>Manny Villafana, Founder of Several Publicly-Held Medical Device Companies</td>
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### Afternoon Breakout Sessions: Pathways to Future Careers

#### 12:40-12:50 P.M.
**Room:** Johnson Great Room  
**Breakout 2A**: Innovation through Transformation  
**Speaker**: Bruce Forsyth, Boston Scientific

#### 12:50-1:00 P.M.
**Room:** Johnson Great Room  
**Breakout 2B**: Virtual Patients  
**Speaker**: Dawn Bardot, Medtronic

#### 1:00-1:10 P.M.
**Room:** Johnson Great Room  
**Breakout 2C**: How to Open a Pharmacy in Africa  
**Speaker**: Sean O'Neil, Optum

#### 1:10-1:20 P.M.
**Room:** Johnson Great Room  
**Breakout 2D**: Bringing Blood Pressure Monitoring to Ghana and Kenya  
**Speaker**: Mark Powell, Medtronic

#### Thomas H. Swain

#### 12:40-12:50 P.M.
**Room:** Thomas H. Swain  
**Breakout 2A**: How Personal Experiences Motivated My Career in the Medical Device Industry  
**Speaker**: Sarah Ahlberg, Medtronic

#### 12:50-1:00 P.M.
**Room:** Thomas H. Swain  
**Breakout 2B**: Adaptive Brain Stimulation for Essential Tremor  
**Speaker**: Heather Webb, 3M

#### 1:00-1:10 P.M.
**Room:** Thomas H. Swain  
**Breakout 2C**: Controlling Biological Time and the Future of Transplantation  
**Speaker**: Sebastian Giwa, Sylvatica Biotech

#### 1:10-1:20 P.M.
**Room:** Thomas H. Swain  
**Breakout 2D**: From Bench to Bedside and Back Again  
**Speaker**: Brian Trieu, UMN

#### Ski-U-Mah

#### 12:40-12:50 P.M.
**Room:** Ski-U-Mah  
**Breakout 2A**: What Does a Biomedical Engineer do?  
**Speaker**: David Panus, Abbott

#### 12:50-1:00 P.M.
**Room:** Ski-U-Mah  
**Breakout 2B**: Freezing Tumors for Cancer Treatment  
**Speaker**: Hari Natesan, BTG

#### 1:00-1:10 P.M.
**Room:** Ski-U-Mah  
**Breakout 2C**: Exploring the Brain  
**Speaker**: Heather Orser, Medtronic

#### 1:10-1:20 P.M.
**Room:** Ski-U-Mah  
**Breakout 2D**: Biotechnology at the Interface of Industry and Academia  
**Speaker**: Fernando Bazan, 4th & Aspen Life Science Consulting

#### Heritage Gallery

#### 12:40-12:50 P.M.
**Room:** Heritage Gallery  
**Breakout 2A**: Designing Pacemakers for Babies  
**Speaker**: Teri Whitman, Medtronic

#### 12:50-1:00 P.M.
**Room:** Heritage Gallery  
**Breakout 2B**: Microspheres: A Peak Behind the Curtain of a Colorful Cancer Therapy Product  
**Speaker**: Emma Adriaens, Boston Scientific

#### 1:00-1:10 P.M.
**Room:** Heritage Gallery  
**Breakout 2C**: Adventures in Nanotech Start-ups  
**Speaker**: Jon Brodd, Vigilant Diagnostics

#### 1:10-1:20 P.M.
**Room:** Heritage Gallery  
**Breakout 2D**: Academic Career Pathways to "Engineering in Medicine"  
**Speaker**: Rhonda Franklin, UMN

### Wrap-Up Session in Memorial Hall

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<tbody>
<tr>
<td>1:30 to 1:35 P.M.</td>
<td>Introduction to Kelsi Klaers</td>
<td>Paul Iaizzo, IEM Associate Director for Education &amp; Outreach</td>
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<tr>
<td>1:35 to 1:50 P.M.</td>
<td>Call to Action</td>
<td>Kelsi Klaers, Outreach Coordinator, College of Science &amp; Engineering</td>
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<td>1:50 to 2:00 P.M.</td>
<td>Concluding Remarks</td>
<td>John Bischof, Director of IEM</td>
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